IN THE CLAIMS:

Claim 1 (original) A method for detecting a target biopolymer in a sample, comprising:

(a) preparing a microarray of said sample by dispensing aliquots of said sample at discrete sites onto a substrate and immobilizing said target biopolymer on said substrate, wherein each of said aliquots contains the same amount of said target biopolymer;

(b) contacting said microarray with a probe biopolymer under conditions that allow the formation of a complex comprising said target biopolymer and said probe biopolymer; and

(c) detecting the presence of said complex as a measurement for the presence or the amount of the target biopolymer in said sample.

Claim 2 (original) The method of claim 1, wherein the preparation of said microarray further comprises dispensing said sample aliquots on said substrate by a method selected from the group consisting of jet printing, piezoelectric dispensing methods, solenoid dispensing methods, thermal dispensing methods, solid pin contact printing methods, capillary quill contact printing methods, microfluidic-based printing, and silk screening.

Claim 3 (original) The method of claim 1, wherein said aliquots comprise picomole amounts of said target biopolymer.

Claim 4 (original) The method of claim 1, wherein said aliquots comprise femtomole amounts of said target biopolymer.

Claim 5 (original) The method of claim 1, wherein said aliquots comprise attomole amounts of said target biopolymer.

Claim 6 (original) The method of claim 1, wherein said aliquots comprise zeptomole amounts of said target biopolymer.

Claim 7 (original) The method of claim 1, wherein said target biopolymer or said probe biopolymer is selected from the group consisting of polynucleotides, polypeptides, carbohydrates, and analogs thereof.

Claim 8 (original) The method of claim 7, wherein said polynucleotide is selected from the group consisting of amplified DNA, cDNA, single-stranded DNA, double-stranded DNA, PNA, RNA, and mRNA.

Claim 9 (original) The method of claim 7, wherein said polypeptide is selected from the group consisting of antibodies, antibody fragments, antigens, ligands, and receptors.

Claim 10 (original) The method of claim 1, wherein said target biopolymer is a polynucleotide and said probe biopolymer is a polynucleotide that is complementary to said target polynucleotide.

Claim 11 (original) The method of claim 1, wherein said target biopolymer is a receptor and said probe biopolymer is a ligand for said receptor.

Claim 12 (original) The method of claim 1, wherein said target biopolymer is an antigen and said probe biopolymer is an antibody specific for said antigen.

Claim 13 (original) The method of claim 1, wherein said probe is labeled with a reporter selected from the group consisting of dyes, chemiluminescent compounds,

enzymes, fluorescent compounds, metal complexes, magnetic particles, biotin, haptens, radio frequency transmitters, radioluminescent compounds, radioactive-labeled biomolecules, dye-labeled beads, quantum dots, and bar coded particles.

Claim 14 (original) The method of claim 1, wherein said substrate is made of crosslinked polymers, porous foam, nitrocellulose, nylon, glass, silica, ceramic, gold, porous metallic materials, non-porous metallic materials, and surface modified materials.

Claim 15 (original) The method of claim 14, wherein said crosslinked polymers are selected from the group consisting of polypropylene, polyethylene, polystyrene, and carboxylated polyvinylidene fluoride.

Claim 16 (original) The method of claim 14, wherein said surface-modified materials are modified with functional groups selected from the group consisting of acyl fluoride, esters, amino, carboxyl, hydroxyl, epoxide, thiol, and alkanethiols.

Claim 17 (original) The method of claim 1, wherein said target biopolymer is immobilized on the substrate by direct adsorption or covalent attachment.

Claim 18 (original) The method of claim 1, wherein said support is in the form of foams, filaments, threads, sheets, films, slides, gels, membranes, beads, plates, and planar devices having discrete isolated areas in the form of wells, troughs, pedestals, hydrophobic or hydrophilic patches, die-cut adhesive reservoirs, or other physical barriers to fluid flow.

Claim 19 (original) The method of claim 1, wherein the surface of said support is modified to contain hydrophobic and/or hydrophilic regions prior to said dispensing step.

Claim 20 (original) The method of claim 1, wherein said substrate is wetted with an organic modifier selected from the group consisting of ethanol, methanol, isopropanol, 2-butanol, acetic acid, dextran sulfate and polyacrylic acid, prior to said dispensing step.

Claim 21 (currently amended) The method of claim 1, further comprising co-dispensing an internal standard with said sample to determine the concentration of said target ~~nucleic acid~~ biopolymer in said aliquots.

Claim 22 (original) The method of claim 1, wherein in step (b), said microarray is contacted with a plurality of probes.

Claim 23 (original) The method of claim 22, wherein each aliquot is contacted with a different probe.

Claim 24 (original) The method of claim 22, wherein said probes are labeled with identical reporter groups.

Claim 25 (original) The method of claim 22, wherein said probes are labeled with reporters that are distinguishable from one another.

Claim 26 (original) The method of claim 1, wherein in step (b), each of said aliquots is contacted with a plurality of probes.

Claim 27 (original) The method of claim 26, wherein said probes are labeled with reporters that are distinguishable from one another.

Claim 28 (original) The method of claim 1, wherein said aliquots are deposited onto said substrate at about 1 to 1536 sites per square millimeter of the substrate surface area.

Claim 29 (original) The method of claim 1, wherein said substrate is a multiple well microplate, and said aliquots are deposited at between 1 to 1536 sites per well of said microplate.

Claim 30 (original) A method for detecting a target nucleic acid in a sample, comprising:

(d) preparing a microarray of said sample by dispensing aliquots of said sample at discrete sites onto a substrate and immobilizing said target nucleic acid on said substrate, wherein each of said aliquots contains the same amount of said target nucleic acid;

(e) contacting said microarray with a labeled nucleic acid probe under hybridizing conditions that allow the formation of a complex between said target nucleic acid and said probe, wherein said probe is a nucleic acid that is substantially complementary to said target nucleic acid; and

(f) detecting the presence of said complex as a measurement for the presence or the amount of said target nucleic acid in said sample.

Claim 31 (original) The method of claim 30, wherein the preparation of said microarray further comprises dispensing said sample aliquots on said substrate by a method selected from the group consisting of jet printing, piezoelectric dispensing

methods, solenoid dispensing methods, thermal dispensing methods, solid pin contact printing methods, capillary quill contact printing methods, microfluidic-based printing, and silk screening.

Claim 32 (original) The method of claim 30, wherein said aliquots comprise picomole amounts of said target nucleic acid.

Claim 33 (cancelled)

Claim 34 (original) The method of claim 30, wherein said aliquots comprise femtomole amounts of said target nucleic acid.

Claim 35 (original) The method of claim 30, wherein said aliquots comprise attomole amounts of said target nucleic acid.

Claim 36 (original) The method of claim 30, wherein said aliquots comprise zeptomole amounts of said target nucleic acid.

Claim 37 (original) The method of claim 30, wherein said target nucleic acid is selected from the group consisting of single-stranded RNA, mRNA, single-stranded DNA, double-stranded DNA, amplified DNA, cDNA and PNA.

Claim 38 (original) The method of claim 30, wherein said labeled probe is selected from the group consisting of single-stranded RNA, mRNA, single-stranded DNA, double-stranded DNA, amplified DNA, cDNA, and PNA.

Claim 39 (original) The method of claim 30, wherein said probe is labeled with a reporter selected from the group consisting of dyes, chemiluminescent compounds, enzymes, fluorescent compounds, metal complexes, magnetic particles, biotin,

haptens, radio frequency transmitters, radioluminescent compounds, radioactive-labeled biomolecules, dye-labeled beads, quantum dots, and bar coded particles.

Claim 40 (original) The method of claim 30, wherein said substrate is made of crosslinked polymers, porous foam, nitrocellulose, nylon, glass, silica, ceramic, gold, porous metallic materials, non-porous metallic materials, and surface-modified materials.

Claim 41 (original) The method of claim 40, wherein said crosslinked polymers are selected from the group consisting of polypropylene, polyethylene, polystyrene, and carboxylated polyvinylidene fluoride.

Claim 42 (original) The method of claim 40, wherein said surface-modified materials are modified with functional groups selected from the group consisting of acyl fluoride, esters, amino, carboxyl, hydroxyl, epoxide, thiol, and alkanethiols.

Claim 43 (original) The method of claim 30, wherein said substrate is wetted with an organic modifier selected from the group consisting of ethanol, methanol, isopropanol, 2-butanol, acetic acid, dextran sulfate and polyacrylic acid, prior to said dispensing step.

Claim 44 (original) The method of claim 30, further comprising co-dispensing an internal standard with said sample to determine the concentration of said target nucleic acid in said aliquots.

Claim 45 (original) The method of claim 30, wherein in step (b), the microarray is contacted with a plurality of probes.

Claim 46 (original) The method of claim 45, wherein each aliquot is contacted with a different probe.

Claim 47 (original) The method of claim 45, wherein each probe is labeled with an identical reporter.

Claim 48 (original) The method of claim 45, wherein said probes are labeled with reporters which are distinguishable from one another.

Claim 49 (original) The method of claim 30, wherein each of said aliquots is contacted with a plurality of probes.

Claim 50 (original) The method of claim 49, wherein said probes are labeled with reporters which are distinguishable from one another.

Claim 51 (original) The method of claim 30, wherein said aliquots are deposited onto said substrate at about 1 to 1536 sites per square millimeter of the substrate surface area.

Claim 52 (original) The method of claim 30, wherein said substrate is a multiple well microplate, and said aliquots are deposited at between 1 to 1536 sites per well of said microplate.

Claim 53 (original) A method for identifying one or more target analytes in a sample, comprising:

(g) preparing a microarray of said sample by dispensing aliquots of said sample at discrete sites onto a substrate and immobilizing said analytes on said substrate, wherein each of said aliquots contains the same amount of said target analytes;

(h) contacting said microarray with a plurality of labeled probes specific for each of said target analytes under conditions that allow formation of a complex between each of said target analytes and said labeled probe specific for said target analyte; and

(i) detecting said complexes as a measurement of the presence or the amount of said target analytes.

Claim 54 (original) The method of claim 53, wherein the preparation of said microarray further comprises dispensing said sample aliquots on said substrate by a method selected from the group consisting of jet printing, piezoelectric dispensing methods, solenoid dispensing methods, thermal dispensing methods, solid pin contact printing methods, capillary quill contact printing methods, microfluidic-based printing, and silk screening.

Claim 55 (original) The method of claim 53, wherein said analyte is selected from the group consisting of biopolymers, drugs, small organic molecules, nucleic acids, proteins, receptors, antigens, carbohydrates, cells, cellular fragments, and tissues.

Claim 56 (original) The method of claim 53, wherein said probe is selected from the group consisting of nucleic acids, antibodies, antibody fragments, ligands, and carbohydrates.

Claim 57 (original) The method of claim 53, wherein said label is selected from the group consisting of dyes, chemiluminescent compounds, enzymes, fluorescent compounds, metal complexes, magnetic particles, biotin, haptens, radio frequency

transmitters, radioluminescent compounds, radioactive-labeled biomolecules, dye-labeled beads, quantum dots, and bar coded particles.

Claim 58 (original) The method of claim 53, wherein said aliquots comprise picomole amounts of said analyte.

Claim 59 (original) The method of claim 53, wherein said aliquots comprise femtomole amounts of said analyte.

Claim 60 (original) The method of claim 53, wherein said aliquots comprise attomole amounts of said analyte.

Claim 61 (original) The method of claim 53, wherein said aliquots comprise zeptomole amounts of said analyte.

Claim 62 (original) The method of claim 53, wherein said substrate is made of crosslinked polymers, porous foam, nitrocellulose, nylon, glass, silica, ceramic, gold, porous metallic materials, non-porous metallic materials, and surface-modified materials.

Claim 63 (original) The method of claim 53, wherein said surface-modified materials are modified with functional groups selected from the group consisting of acyl fluoride, esters, amino, carboxyl, hydroxyl, epoxide, thiol, and alkanethiols.

Claim 64 (original) The method of claim 53, wherein the surface of said support is modified to contain hydrophobic and/or hydrophilic regions prior to said dispensing step.

Claim 65 (original) The method of claim 53, wherein said substrate wetted with an organic modifier selected from the group consisting of ethanol, methanol,

isopropanol, 2-butanol, acetic acid, dextran sulfate and polyacrylic acid, prior to said dispensing step.

Claim 66 (original) The method of claim 53, further comprising co-dispensing an internal standard with said sample to determine the concentration of said analytes in said aliquots.

Claim 67 (original) The method of claim 53, wherein each aliquot is contacted with a different probe.

Claim 68 (original) The method of claim 67, wherein each probe is labeled with an identical reporter.

Claim 69 (original) The method of claim 67, wherein each probe is labeled with a different reporter.

Claim 70 (original) The method of claim 53, wherein each aliquot is contacted with a plurality of probes.

Claim 71 (original) The method of claim 53, wherein said aliquots are deposited onto said substrate at about 1 to 1536 sites per square millimeter of the substrate surface area.

Claim 72 (original) The method of claim 53, wherein said substrate is a multiple well microplate, and said aliquots are deposited at between 1 to 1536 sites per well of said microplate.